RAW SEQUENCE LISTING

The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) no errors detected.

Application Serial Number:	101	500	1070B
Source:			W16
Date Processed by STIC:		- 8	-20-05

ENTERED



TFW16

RAW SEQUENCE LISTING DATE: 08/20/2005
PATENT APPLICATION: US/10/600,070B TIME: 11:20:10

Input Set : A:\08153.ST25.txt

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              Vitha, Stanislav
      5
              Koksharova, Olga A.
             Gao, Hongo
      8 <120> TITLE OF INVENTION: Plastid Division and Related Genes and Proteins, and Methods
of
      9
              Use
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     11 <130> FILE REFERENCE: MSU-08153
     13 <140> CURRENT APPLICATION NUMBER: 10/600,070B
     14 <141> CURRENT FILING DATE: 2003-06-20
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Input Set : A:\08153.ST25.txt

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124 Ser Thr Thr Ile Cys Ser Ala Ser Lys Trp Ala Asp Arg Leu Leu Ser	
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128 Asp Phe Asn Phe Thr Ser Asp Ser Ser Ser Ser Phe Ala Thr Ala 129 50 55 60	
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156 Val Ile Thr Asp Val Pro Trp Asp Lys Val Pro Gly Ala Leu Cys Val	
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Input Set : A:\08153.ST25.txt

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181	Glu	T.211	T.e.u		T. e 11	Pro	I.e.i	Glv		Asn	Tvr	Δla	Δla		Ara	Leu
185	GIU	пси	275	Oly	БСи	110	шец	280	1100	1100	-1-		285	275		
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	Glu	Ala	Phe	Leu	_	Met	Thr	Ala	Ala		Gln	Val	Asp	Leu		Val
197	77-	mla -a	Dana	C = 20	325	T1.	Dro	77.	C1.,	330	Dho	C1.,	W-1	Ф. т.	335	Wa l
200	Ala	THE	PIO	340	ASII	Ile	PIO	АТА	345	ser	Pne	Giu	vaı	350	Gru	vai
	Δla	T.eu	Δla		Val	Ala	Gln	Ala		Ile	Glv	Lvš	Lvs		His	Leu
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	T.eu	Glu	Ara	Val		Val	Val	Gln	Glv		Pro	Leu	Ala	Ala		Ala
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325 326 328 330 332 334 336 348 342 344 346	cttgti cttg aatt ttta aatg gtti cagi atgg atgg	0 > SI tetgo ggeta ttta aaact gaagg tttt tetet gaag gega ttggg	EQUEI cat 1 ata 9 cac 6 ttt 6 gca 6 gtg 9 gat 1 ttc 6 ccg 6 ccg 6	NCE: taagg ggati attto aaagg actco gcgao ttaao tgagg tgagg aaagg	gagaa teatt tagtt tagtc taacc tttat tgtaa tcacc getec	at ac g g g g g g g g g g g g g g g g g g	caati ctcto atgti gaati tctto atcai tacto cagao ggcai cgtao tccgo	tataa gtttg taagg taaggt tagad caaaa acaaa ttggf gccaa	a gea g ett a aaa t eat g gaa t tg a tea a gti c etc c aac	aatti aatti agaga atggi ataga attti aaaai attti atcco	catt aggg tta atta ttac gtag ccat ccta	taca aati ctgi ttta ttti ataa tcca caac	atgte tgate agace ttte aacce ccta aatte atte	cat ggg tct gat cat agt cat cat cat cat cat cat cat cat cat ca	aatag gttt! atatg ttaac agctg gacga agaca ccga! ctcc!	gtttcg tgtggg gtgtaa catcat ggtgat accaaa actccc ttacca gccagc	120 180 240 300 360 420 480 540 600 660 720
325 326 328 330 332 334 336 348 340 342 344 346 348	cttg aatt ttta aatg gtti cagi atgg acgg aaat	0 > SI tetge ggeta tttae gaage gteee ttte gaage tttte gaage gegae tggge	EQUER cat the cat a section and cat the a graph of the cat the a cat the a c	NCE: taagg ggatt attto aaagt actco gcgao ttaao ttaao aatai caaag	gagaa gagaa catt cagtt caac cttat cgctca gctca cctta	at ac gg gg gg to ac	caati ctctc atgti gaati tctta atcai cagaa ggcai cgtag tccga	tataa gtttg taagg taaggtg tagaa caaa acaaa ttggf gccaa actto	a goa g cti a aaa t cai g gaa t tgi a tca a gti c cto c aaa c gto	aatti cttac agaga ctggi ataga cttti aaaai ctttc ctccc	catt aggg tta atta ttac gtag ccat acct acc	taca aati ctgi ttta tagi tcca caac ccga	atgte tgate agace tttca aacce cctaa aatta ctate catce	cat ggg tct gat gat aat ata atg ctc tat	aataggttti atatg ttaac agctg gacga agaca ccgai ctcci tgatc	gtttcg tgtggg gtgtaa catcat ggtgat accaaa actccc ttacca gccagc	120 180 240 300 360 420 480 540 600
325 326 328 330 332 334 336 342 344 346 348 350	ctts aatt ttta aats gttt cagt atgs ccgs aaat ttcs	0 > SI tetge ggeta ggeta gaage ttte gaage tete gaage gegae tggge geeae	EQUER cat the cat a control cat a control graph to a control cat the c	NCE: taagg ggatt attto aaagt actco gcgao ttaao aatai tgagf caaao accgf	gagaa gagaa caatt cagtt caacg cttat cgtaa cctca cacca cacca cacca	at ac g g g g g g g g g g g g g g g g g g	caati ctctc atgti gaati tctta atcai tactc cagaa ggcai cgtag ccca gccac attga	tataa gtttg taagg taagg tagat caaaa acaaa ttggf gccaa actto actto	a goa g cti a aaa t cai g gaa t tgi a tca a gti c caa c aai c gto c tao	aatti cttac agaga ctggi ataga cttti aaaai cttcc ctccc ccagg	catt aggg tta atta tcc gtag ccat acct acc	taca aati ctgg ttta taga tcca ccaa ccga caca tagg	atgte tgate agace ttte aacce cctae aatte catee gagee	cat ggg tct gat agt ata atg ctc tat tca	aataggttlata	gtttcg tgtggg gtgtaa catcat ggtgat accaaa actccc ttacca gccagc tcctcc	120 180 240 300 360 420 480 540 600 660 720
325 326 328 330 332 334 336 342 344 346 348 350 352 354	<400 tgtt cttg aatt ttta aatg gttt cagt atgg ccgg aaat ttcg gaad ttcg ttaat ttca	0 > SI tetge ggeta gaage gtee tete gaage tete gaage gegae ace ace agega	EQUER cat description of the cate of the c	NCE: taagg gatt attto aaagg actco gcgao ttaao ccaco tcaco gcaco tccco gaato	gagaa gagaa teatt tagto caaco cttat tgtaa tcaco catco cagaa tttaa	at ac g g g g g g g g g g g g g g g g g g	caati ctctc atgti gaati tctta atcai tactc cagaa ggcai cgtag cgtag cgtag cgtag cgtag	tataa gttte taagg taaggte tagal caaaa acaaa ttggf gccae actte cattte tcgaa ggaga	a goa g cti a aaa t cai g gaa t tog a toa a gti c aaa c gto c aaa c gto c aaa a gci a caa a gci a caa	aatti ctta agaga ctggi ataga cttti aaaai cttcc cacci ctccagg cagggatto	catt aggga atta attat catag cata acct gtat gttt gtt	taca aatt ctgf tttt ataa tage caae caae caae caae caae caae aag	atgto tgato ttgato agaco cctac aatto atto gago gago ctgo	cat ggt tgagt actat actat cat cat cat cat cat cat ca	aataggtttaacagagacacagaacagacacagaacacagaacacagaacacagaacacacagaacacagaacacagaacacagaaacacagaaacacagaaacacagaaacacagaaacacaaca	gttteg tgtggg gtgtaa catcat ggtgat accaaa actece ttacca gecage teetee cattte tteggt actetg	120 180 240 300 360 420 480 540 660 720 780 840 900
325 326 328 330 332 334 336 342 344 346 348 350 352 354 356	<400 tgti cttg aati ttta aatg gtti cagi atgg ccgg aaai ttcg gaac ttca ttta	0 > SI tetge ggete ggete gaage ttte gaage ttte gaage geea tggeea agega agega agega	EQUER cat a cat a cat a cat a cat a grap cat a grap cat a cat	NCE: taagg gatt attt aaagg actc gcga ttaac accg accc gaacc gaacc gaacg ggtc	gagaa gagaa teagti tagti caace tttat teace teace teace tagta tagta tagta tagta tagta tagta	at ac g g g g g g g g g g g g g g g g g g	caati ctctc atgti gaati tctta tctcai tactc cagaa ggcai cgtag tccga ggcat ggcat ggattg	tataagattaagattagattagattagattagatttagatttag	a goa g cti a aaa t cai g ga t to a gti c aaa c gto c aaa c gci a cag c taa g cag c taa g cag c taa c g cag c taa c aaa c aaaa c aaa c aaaa c aaa c aaaa c aaa c aaa c aaa c aaa c aaa c aaaa c aaa c aaaa c aaa c aaa c aaa c aaaa c aaa c aaaa c aaa c aaaa c aaa c aaaa c aaa c aaaa c aaa c aaaa c aaa c aaaa c aaa c aaa c aaa c aaa c aaa c aaa c aaa c aaaa c aaa c aaa c aaaa c aaa c aaa c aaa c aaa c aaa c aaaa c aaa c aaaa c aaa c aaa c aaa c aaa c aaa c aaa c aaa c aaa c aaa c aaaa c aaa c aa c aaa c aaa c aaa c aaa c aaa c aaa c aaa c aaa c aaaa c aaa c aa c aaa c aaa c aaa c aaa c aaa c aaa c aaaa c aaa c aaa c aaa c aaa c aaa c aaa c aa c aaa c aa c aaa c aaa c aaa c a	aatti cttac agaga ctggi ataga cttti aaaai cttcc cacci ctccagg cagggatti aggtc	catt aggga attat attat cytag cotta accet gtat cyta cyta	taca aatt ctgf ttta tage tcca cace cace cace cace cace tage cace tage cace tage cace tage cace cace cace cace cace cace cace c	atgto tgato ttgato agaco ccta actato catto gago ctgato atgat	cat ggt ggt at gagt at ctat ccat gct at ctat ccat gct at ccat gct at ccat gct at ccat ac ccat	aataggtttaacaagacaacaacaacaacaaaacaaaaaaaa	gtttcg tgtggg gtgtaa catcat ggtgat accaaa actccc ttacca gccagc cctcc catttc ttcggt actctg gctaca	120 180 240 300 360 420 480 540 660 720 780 840 900 960
325 328 330 332 334 336 342 344 346 350 352 354 356 358	<400 tgti cttg aati ttta aatg gtti cagi atgg ccgg aaat ttcg gaac ttca gtca gtca	0 > SI tetge ggete tetae gaage tette gaage tette gaage teggee agega agega agega agega agega agega	EQUER Cata 9 Cata 9 Cata 19 Cata 19	NCE: taagg gatt attt acagg actco gcgac taaag accg acccc gaccc gacgc acgt acgt	gagaa teatt tagtt tagtc caace ttat teace teace tagta teace tagta tagta tagta tagta tagta tagta tagta tagta tagta tagta	at ac g g g g g g g g g g g g g g g g g g	caati ctctc atgti gaati tctta atcai tactc aggcai cgga tccga gattg gattg gagta gagta gagta	tataa gtttg taagg taaggt tagal caaaa acaaa ttggl gccaa acttc gcattt ggaga acaal	a goa g cti a aaa t cai g ga t tog a cto a gti c aaa c gta a gci a cag c taa g cag a cag a cag a cag a caa a cai	aatti cttac agaga ctggi ataga cttti aaaai cttcc cacci ctccagg gattc aggt caggt caggt	catt aggga attat ctag cctag cctag tttc gtttt cctttt	taca aatt ctgf tttt ataa tage caae caae caae caae caae caae caae c	atgto tgato ttgato agaco ccta actato gago gago gatoga tgata attac attac gago gatoga attac attac gago attac attac gago actac ac acta actac actac actac actac actac actac actac actac actac actac ac a acta acta acta acta actac acta acta acta acta acta acta acta acta acta acta acta acta acta acta acta acta acta a acta a acta a a a	cat ggtat gagta cat gctat cat gctat cat ctat cctat cccat cctat cct	aataggtttaacaagacaacaacaacaacaacaaacaacaaaca	gttteg tgtggg gtgtaa gateat ggtgat accaaa acteec ttacca gecage cettee gattte tteggt actetg getaca ttette	120 180 240 300 360 420 480 540 600 720 780 840 900 960 1020
325 326 328 330 332 334 336 342 344 346 350 352 354 356 358 360	<400 tgtt cttg aatt ttta aatg gttt cagt atgg ccgg aaat ttca gtta ttca gtta gtt	0 > SI totgo ggcto ggaag gtco ttto gaag gtco tggaa cgca cgca cgca cgca cgca cgca cgc	EQUER to a second	NCE: taagg gatt gattt acto gcga ttaac tgagg ccacc gacc gcgacc tcacc gacc tcacc gacgt tcacc	gagaa teatt tagto caaco ctgta tcaco catco catco catco catco catco catco catco catco catco catco catco catco catco catco catco catco	at ac g g g g g ac a ac g g g g ac	caati ctctc atgti gaati tctta atcai tacto aggcai cggaat cggaat gacac gattga gatta gagta gatta	tataa gtttg taagg taaggt tagat caaaa acaaa ttggt gccaa acttc ggaga acaal aggta ggaag	a goa ga a a a a a a a a a a a a a a a a	aatti cttac agaga ctggi ataga cttti aaaai cttcc cacci ctccagg gattc aggt ctcga	catt aggga attat ctag cctat ctag ctat ctta cttat cttat cttat cttat cttat cttat cttat cttat	taca aatt ctgf tttt ataa tage caae caae caae caae caae caae caae c	atgtote tgatote agacot tttca actaco catto gagot atgat attaco gagot gatgat gatgat	cat gct gct act gct act cct cct cct cct ac gct act gct ac	aataggtttaacaagacaacaagacaaaagacaaaagaaaaagatttcct	gttteg tgtggg gtgtaa gtgat accaaa actccc ttacca gccagc cctcc catttc tteggt gctaca ttcttg	120 180 240 300 360 420 480 540 600 720 780 840 900 960 1020 1080
325 326 328 330 332 334 336 342 344 346 348 350 352 354 356 358 360 362	caginates gates teta gtts gtts teta	o> Si totgo totgo getta gaagg totte gaagg tttt gaagg tggga tgga tggga tgga tggga tgga tggga tggga tggga tgga	EQUER CALL CALL CALL CALL CALL CALL CALL CAL	NCE: taagg gatt gattt actco gcga ttaac tgagg ccacc gacccc gatgt tcatg	gagaa teatt tagto taaco tttat tgtaa tcaco taco tagaa tagaa tagaa tagaa tagaa	at ac go go go ac	caati ctctc atgti gaati tctal tacto aggaat cggtag tccga aggattg gagtag tcag tc	tataa gtttg taagg taaggt tagat caaaa acaaa ttggt gccaa acttto acttto acttto acttto acttto gaaga acgaaa aggta aggta	a goa ga a atta a atta ga a atta a atta ga a atta a a atta ga a atta a a atta ga a atta a a atta a a a	aatti cttac agaga cttti aaaai cttcc ccagg cttca cctctc ccagg cattca agattc aagatt aagatt aagatt aagatt aagatt	catt agga attat attat gcatat actgat a actgat actgat actgat actgat a actgat actgat actgat actgat a a	taca aatt ctgf tttt ataa tagg caac caac caac caac caac	atgtote tgatote agacot ttco ccta actato gagot actgat gatga gtga cgggg	cat ggt ggt aat gct aat ctat gct aat ctat gct aag gt tcat gct ag gt tcat gct ag gt tcat gct ag gct ag gct	aataggtttlatatggacgacgacgacgacgacgacgacgacgacgacgacgac	gttteg tgtggg gtgtaa gtgat accaaa actccc ttacca gccagc cctcc catttc tteggt gctaca ttcttg	120 180 240 300 360 420 480 540 600 720 780 840 900 960 1020 1080 1140
325 326 328 330 332 334 336 342 344 346 352 354 356 358 360 362 364	c400 tgtt cttg aatt ttta aatg ttg cagt ttcag ttc	o> Si totgo totgo total gaagg toto gagga total gagga total agga total agga total agga total agga total agga total aga total agga total aga tota tota tota tota tota tota tota	EQUER 1 SECURE 1 SECU	NCE: taagg gatt gattt acaagg taaagg ttaaa tgagg tcaaagg tcaaag	gagaa teatt tagto caace cttat tgtaa tcace catco catco cagaa tagaa tagaa tagaa tagaa tagaa	at ace con ace	caati ctctq atgti gaati tctta tacto ggcai cggcai cggcai gccag gccag attga gcattga gccag attga gcattga gccag attga gcattga gccag attga gcattga	tataa gtttg taagg taaggt taggt caaaa acaaa ttggf gcaa acttt ggaga ggaga ggaga tttaa	a goal ga a a a cal ga a a cal	aatti ctta agaga cttggi ataga cttti aaaai cttcc ccagg cttca ccagg cttca ccagg cattca caggt caggt caggt caggat caggat caggat caggat caggat caggat caggat caggat	catt agga attat attac gcatat acttat gtttt attat aggtt attat aggtt attat aggtt attat aggtt attat acttat a acttat acttat acttat acttat acttat acttat a acttat a acttat a a acttat a a a a	taca aatt ctgf tttt ataa tcca caac caac caac caac caa	atgtote tgatote agacot ttote actato cattote gagoo ctgat aataa gtgagoo ttagoo	cat get a get a a cet a cet get a a cet a cet a cet get a a cet a cet get a a cet a	aataggtttatgataaagatttcctggtgggataagatttcctggtgggataagatttcctggtggggttgggggttgggggttgggggttgggggg	gttteg tgtggg gtgtaa gtgat accaaa actccc ttacca gccagc tcctcc catttc tcggt actctg gctaca tcgggc ggctct gcttgc	120 180 240 300 360 420 480 540 600 720 780 840 900 960 1020 1080 1140
325 328 330 332 334 336 342 344 346 352 354 358 360 362 364 366	c400 tgtt catt aatt aatt cagtt cagt ttct gtca gttt tctt gttt gt	0 > SI totgo totgo totgo total gaagg totogo totgo accg accg accg accg accg accg accg ac	EQUER 1 SECURE 1 SECU	NCE: taagg gatt gattt gattt gacga gtaaa tgaagg tcaaag tcaaaag tcaaag tcaaaag tc	gagaa teatt tagto caaco cttat teaco cateo cagaa tectta aagaa tectta cagaa tectta aagaa tectta	at ac go go go ac ac go go ac ac go go ac ac go go ac ac ac go ac ac go ac	caati ctctq atgtt gaati tcatcat cagaa gagta tcaga gagta tcaga tcag	tataa gtttg taaggt taaggt taaaa acaaa ttgga acttt gacttt tcgaa ggaag ggaag tttaa	a got ga aat aat	aatti ctta agaga cttti aaaai cttca ccagga cttca ccagga ctcga actti agata agata aggat	catt agga ttatc gcata tcattatc gttatc gttatt aggt actatt aggt actatt aggt actattt actatt actatt actatt actatttt actatttt actatttt actatttt actatttt actattttt actatttttt actatttttt actattttttt actatttttttt	taca aatt ctgf tttt ataa tcca caac caac caac caac caa	atgtote tgatote agacota actato catto gacot atgatote atgatote atgatote atgatote atgatote atgatote atgatote attatote gacotote attat	cat get a get a a cet a cet get gat a a cet a cet get gat a get a a cet a cet get gat a cet ta a cet a	aataggtttatgagagagagagagagagagagagagaga	gttteg tgtggg gtgtaa gtgat accaaa actccc ttacca gccagc cctcc catttc tteggt gctaca ttcttg	120 180 240 300 360 420 480 540 600 720 780 840 900 960 1020 1080 1140

Input Set : A:\08153.ST25.txt

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376	tgcgaaaaga	ctaaatggtt	taagcggtgt	gcggaatatt	ttgtggtctg	ttggaggagg	1560
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380	acgaatgaca	gctgctgagc	aggtatacag	tttagatacc	tttttttaat	ttctttagca	1680
		ttaggtttct					1740
384	gctaccccaa	gcaatattcc	agcagagtca	tttgaagttt	acgaagttgc	acttgctctt	1800
		cttttattgg					1860
388	cagcaacttc	agcaggctaa	ggtaatggct	atggagattc	ctgcgatgtt	gtatgataca	1920
		gggagataga					1980
		aatgccgtat					2040
		tggagtttgt					2100
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		tggaggtagt					2280
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		atagaaactc					2400
		gtaacaatgt					2460
		ctgaaaactt					2520
		atgaaactac					2580
412	gtgaagatcc	tagctgctgg	tgtggcaatt	ggactgattt	cactgttcag	ccagaagtat	2640
		gcagctcatc					2700
		taggtatgat					2760
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422	ctgtagacag	aaatgtaaat	ttcactctca	acatttctgt	ttagaataac	gtaggattag	2940
424	agattgcctt	agtgtggctt	tgtccaactt	ttctttcctt	gattttttc	ttttcgattt	3000
426	agggtcagtc	agagctgacg	attcagaagc	acttcccaga	atggatgcta	ggactgcaga	3060
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		aacaccagtc					120
		gatcgctggg					180
463	cgtcgcgtat	tcccgatcac	atccccctgt	gtctgctacg	gagataacgc	cgatcactca	240

Input Set : A:\08153.ST25.txt

Output Set: N:\CRF4\08202005\J600070B.raw

Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:132; N Pos. 127,520,541
Seq#:140; N Pos. 113
Seq#:144; N Pos. 144,301
Seq#:146; N Pos. 11,12,14,65,88
Seq#:147; N Pos. 13,516
Seq#:174; N Pos. 22,451,471,483,484,487,489,490
Seq#:175; N Pos. 528,536,540
Seq#:182; N Pos. 6,16
Seq#:184; N Pos. 21
Seq#:198; N Pos. 608,656
Seq#:199; N Pos. 646
Seq#:201; N Pos. 609
Seq#:207; Xaa Pos. 2,3,5,7

VERIFICATION SUMMARY

DATE: 08/20/2005 PATENT APPLICATION: US/10/600,070B TIME: 11:20:11

Input Set : A:\08153.ST25.txt

Output Set: N:\CRF4\08202005\J600070B.raw

L:814 M:300 W: (50) Intentionally skipped Sequence, : Sequence Id (8) SEQUENCE: L:7840 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:132 after pos.:120 M:341 Repeated in SeqNo=132 L:8026 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:140 after pos.:60 L:8125 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:144 after pos.:120 M:341 Repeated in SeqNo=144 L:8186 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:146 after pos.:0 M:341 Repeated in SegNo=146 L:8226 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:147 after pos.:0 M:341 Repeated in SeqNo=147 L:11286 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:174 after pos.:0 M:341 Repeated in SeqNo=174 L:11343 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:175 after pos.:480 L:11505 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:182 after pos.:0 L:11559 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:184 after pos.:0 L:13254 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:198 after pos.:600 L:13291 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:199 after pos.:600 L:13359 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:201 after pos.:600 L:13585 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:207 after pos.:0